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NASA'S CASSINI SCIENTIST FOR A DAY
CASSINI PEOPLE OUTREACH DEPARTMENT, JPL, NASA
PLANETARY SOCIETY, INDIA (National Point of Contact)

Name : K.SusmithaSri

Class: X **Section :** A

School : NARAYANA OLYMPIAD SCHOOL **In charge Teacher :** ROHINI. V.M

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Father's/~~Guardian~~ Name : K.V. Ramanjaneyulu.

Designation: Principal

Office Address: –

Phone: – **Mobile :** –

Declaration

I/We agree to assign copyright to JPL so that JPL and NASA can post the essays, as excerpts or in their entirety, on NASA Web sites. I/We agree if selected would attend the Videoconference fulfilling necessary requirements as and when stated by the Society.

Thanking you

Students Name : K. SusmithaSri

Signature : Susmitha Sri.

~~Father~~/Guardian's Name: Rohini (for)

Signature:

Note : Society welcomes Interested Parents/Individuals/Govt/Private organizations to assist society 1. to raise support/sponsorship for various expenses in their Official/Personal capacity. 2. Lend time/expertise for organizing the Videoconference. Email: planetarysocietyindia@gmail.com

Revised

Instructions For Teacher In Charge/Parent/Guardian Submitting the Final Essays:

1. This opportunity is open to all students in India who are in grades 5 to 10. Essays will be divided in two groups: grades 5 to 7 and 8 to 10.
2. Communication skills are an important part of being a scientist. Spelling and grammar will be considered, in addition to the ideas expressed in your essay.
3 . **Date of Videoconference** which is planned to be held in december (our request for this date is awaiting approval from Cassini Outreach, JPL, NASA) .
6. **Dress Code** may be suggested Organizers /Special T-Shirt at cost may be printed.
7. The winning Schools will participate videoconference with Cassini scientists (depending on the conferencing technology made available Organizers)
i. Indirect (Winner ask question and Mission Scientist reply in video)
ii. Directly (Involving ex NASA Scientist)
8. The decision of the judges Communicated by National Coordinator is final.
9. **Submission of Essays :** should be delivered to

For Students:

1. Write an essay (500 words maximum) explaining which one of the three possible imaging targets you chose, and explain why.
2. Suggestions: i). Try reading all the Material given. Don't miss to read Set 1 & Set 2 and Science Objectives of your Target.
ii). You can Work/write your essay based on the hidden clues suggested in the Description or Transcripts of Videos or the questions asked in the target to be chosen by you. You can also use Actual Mission Objectives or Science Objectives Info regarding Mimas, Tethys, Prometheus etc.. mostly which is available in Set 3 for some targets.
3. All submissions must be students' original work. Each student can submit only one entry selecting only one Target .

4. Attach Separate page with following information:
i. Target Chosen: With Title and Target No.
ii. Name of the Student & Father Name along with Phone/Mobile No.
iii. Summary in 50 -75 Words.
iv. Name of School with Phone No. – In charge Teacher
The names and contact information, Summary of 50-75 words above will NOT be included in the word count for the 500-word essay.
5. Participants agree to assign copyright to JPL so that JPL and NASA can post the essays, as excerpts or in their entirety, on NASA Web sites.

t Chosen : - **Titan**

arget Number :- **3**

Name of the student :- **Susmitha Sri . K**

Name of the Father :- **K.V.Ramanjaneyulu**

Residence number (with code) :- 040 – 23155686

Mobile no :- 99912343613

Name of the school : - **Narayana Olympiad School**

Phone number :- 040-64551397.

Summary : - In the above essay I mentioned about the projects I would take up for one day as scientist. My target is Titan and the following are the observations made and have given reasons for most of them in the essay.

1) Why Titan is a poor reflectos of waves ?
2) What are the constituents of Titan ?
3) Why there are lakes of ethane and methane on Titan ?
4) Why the colour of Titan is orange ?
5) How scientists came to find the traces of water on Titan ?
6) What does Titan's core constitute of ?
7) Why the atmosphere of Titan rotates faster than it's surface ?

These are discussed in the essay. Apart from these there are many interesting things on Titan. But these would make the day for a scientist who is for one day.

Essay :If I were a scientist for one day Target : 3

If I were a scientist for one day I would be interested in dealing with target 3 i.e Titan. As all knows that Titan is the second largest satellite and has the thickest nitrogenous atmosphere and some interesting facts like ethane and methane rivers flowing on the surface, apart from these I find something still more interesting about Titan. First of all Titan resembles earth in it's geographical features. It has an atmosphere like earth and it is still more denser than that of earth's atmosphere. As earth has mountains on it's surface, Titan also has some mountains which will always be emitting fumes of water, Ammonia, ethane and methane. In Titan we have rivers of methane and ethane where as here we have oceans of water available. There we have rivers which contain methane and ethane but here it's water. Scientists are working out to know about the origin of earth using the conditions of Titan. Every body knows about this.
Myself being an young scientist has my own views regarding satellite "Titan".

The first is that why Titan is a poor reflector of waves. This must be because of the thickest atmosphere of Nitrogen that surrounds it. With this the temperature on Titan would be less.

The second is that what are the constituents of Titan ? As we know that there are lakes of methane and ethane on Titan and more over the mountains on it emit fumes of ethane and methane we can say that the surface is made of gas methane and ethane. If not, the mountains wouldn't have emitted ethane
(or)methane.

d one is that, why there are lakes of ethane and methane ? As told earlier that there are fumes emitting out they ve a chance to form clouds in the atomoshphere. With this when it rains on Titan these lakes would have been ormed. But, you may get a doubt how these remain in liquid state. This is because of the atmosphere which makes the temperature decrease. So this is the possibility. So we found large quantities of methane and ethane on the surface of Titan. With this we can prove another interesting thing i.e

The fourth one which is why the colour of Titan is orange ? This is formed by Tholins – tar like precipitates. Why and how ? The methane present in the atmosphere will be broken by the sun's ultra violet rays and forms many hydrocarbons among which Tholins is one. This gives Titan orange colour.

The fifth one is that why scientists have found the traces of water on the surface of titan ? it is an easy observation that when the temperature is low on Titan and water fumes come out of it, obviously water will liquify and finally forms ice particles on Titan.

The sixth one is that why water fumes and ethane, methane and ammonia are pushed out of mountains ?
This will further strengthen the statement that Titan is full of methane and ethane, because if the core is made of only methane and ethane and traces of ammonium hydroxide there is a possibility for the above substances to come out (or) else it would have been molten rock (or) lava ejecting out.

The seventh one is that why the atmosphere of Titan rotates faster than that of its surface. It would be because of no magnetic field on Titan. I would prove all the above mentioned scientifically, by exploring Titan and would really get a great name to India.

I say at last, I don't like to be a scientist for one day but till my enthusiasm gets ended I will continue my research as a scientist .

Nice !

Thank you.

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NASA'S CASSINI SCIENTIST FOR A DAY
CASSINI PEOPLE OUTREACH DEPARTMENT, JPL, NASA
PLANETARY SOCIETY, INDIA (National Point of Contact)

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Declaration

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Thanking you

Students Name : M. BHARATH Father/Guardian's Name: M. NADHAMUNI NAIDU

Signature : Signature:

Note : Society welcomes Interested Parents/Individuals/Govt/Private organizations to assist society 1. to raise support/sponsorship for various expenses in their Official/Personal capacity. 2. Lend time/expertise for organizing the Videoconference.
Email: planetarysocietyindia@gmail.com

Best in Category
Review.